

CHAPTER 17

**RIGGING MASS SUPPLY BOX ON A 20-FOOT, TYPE V
PLATFORM FOR LOW-VELOCITY AIRDROP**

17-1. Description of Load

Two mass supply boxes are rigged for low-velocity airdrop on a 20-foot, type V airdrop platform. Loads may include any bulk items of general supply that can be packed into the box without shifting of the load. FM 10-500-2/TO 13C7-1-5 shows weight limitations and parachute requirements.

17-2. Preparing Platform

Prepare a 20-foot, type V airdrop platform as described below.

a. *Inspecting Platform.* Inspect, or assemble and inspect, the 20-foot, type V airdrop platform as outlined in TM 10-1670-268-20&P/TO 13C7-52-22.

Note:

If the platform must be assembled, install the suspension links when assembling the platform. See Figure 17-1 for the location of the suspension links.

b. *Installing Suspension Links.* Install the suspension links on the platform according to FM 10-500-2/TO 13C7-1-5.

c. *Installing Tandem Links.* Install a tandem link on the front of each rail as shown in Figure 17-1.

d. *Installing and Numbering Clevises.* Bolt and number 52 clevis assemblies as shown in Figure 17-1.

Notes:

1. The nose bumper may or may not be installed.
2. Measurements given in this chapter are from the front edge of the platform, NOT from the front edge of the nose bumper.

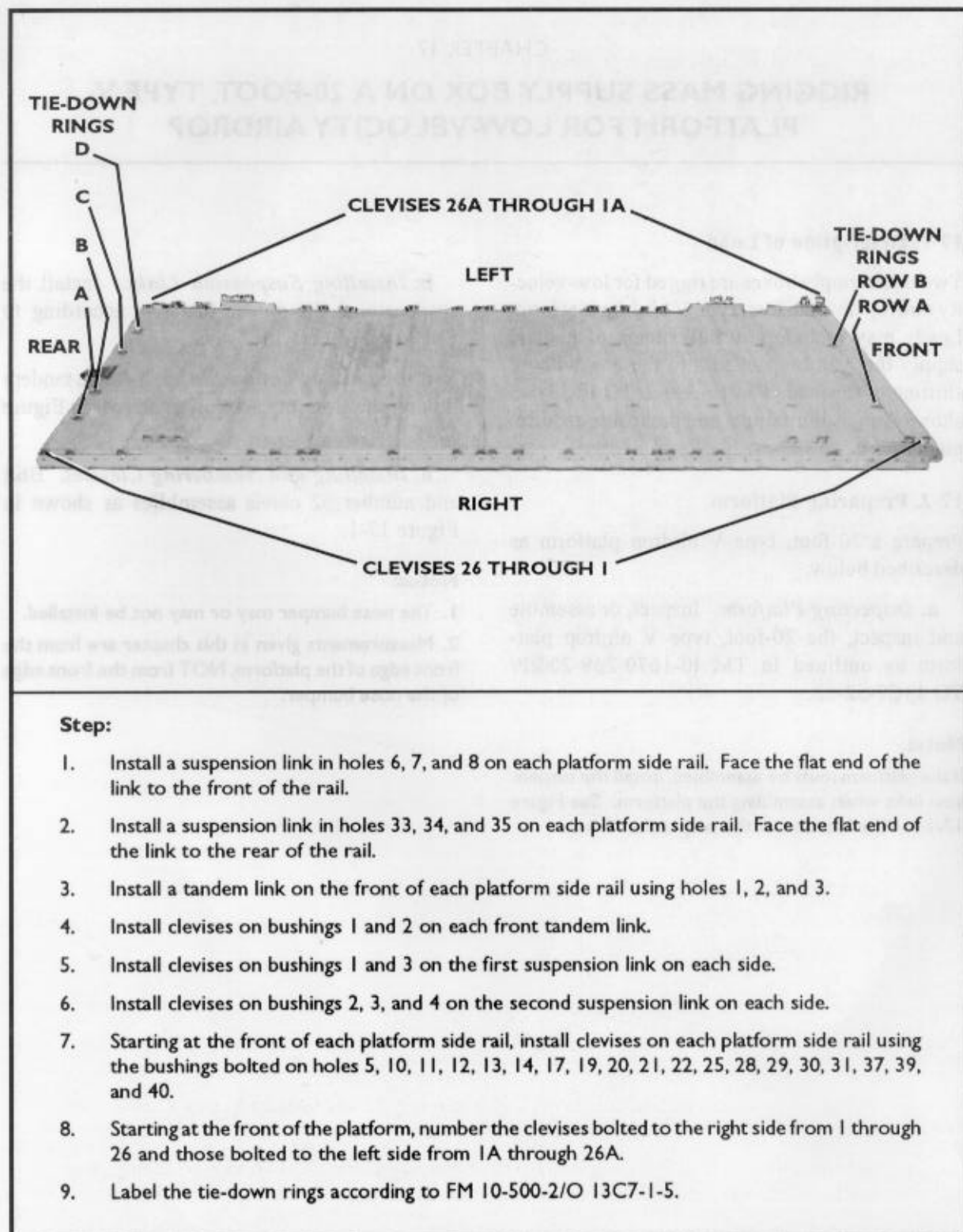


Figure 17-1. Platform prepared

17-3. Placing Lashings on Platform

Pre-position fourteen 15-foot lashings through the tie-down rings on the platform as shown in Figure 17-2.

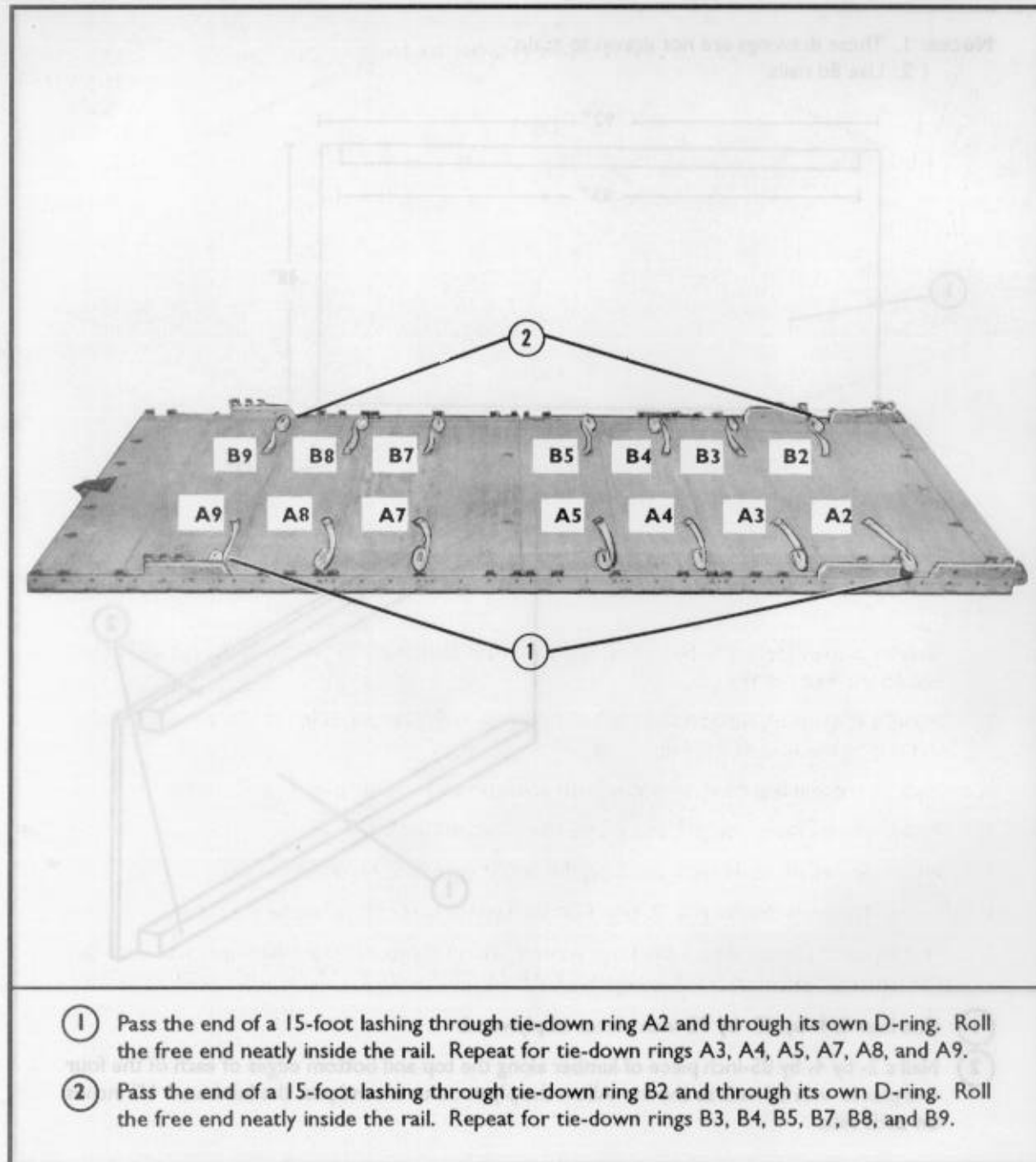


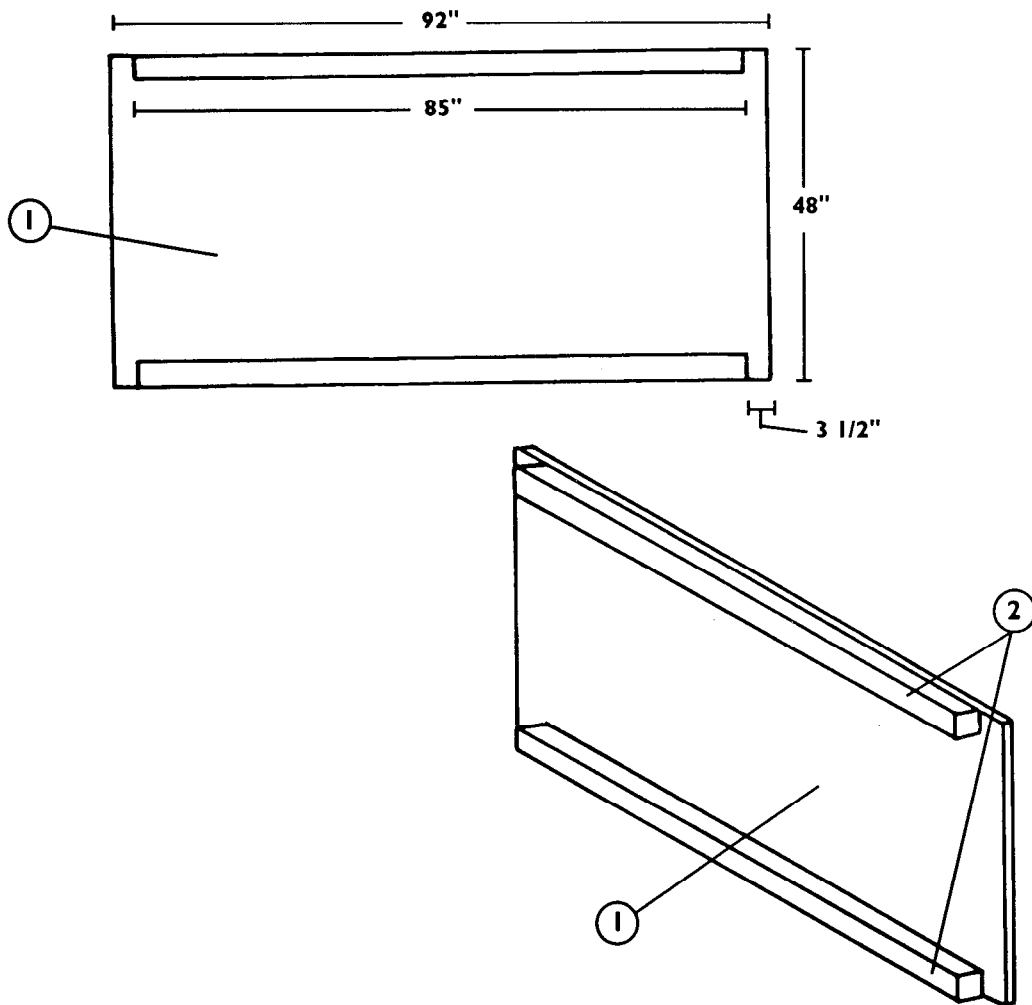
Figure 17-2. Lashings pre-positioned on platform

17-4. Constructing and Forming Storage Box Components

Construct the components of the storage boxes as shown in Figures 17-3, 17-4, and 17-5.

Partially assemble the first box for loading as shown in Figure 17-6.

- Notes:** 1. These drawings are not drawn to scale.
2. Use 8d nails.

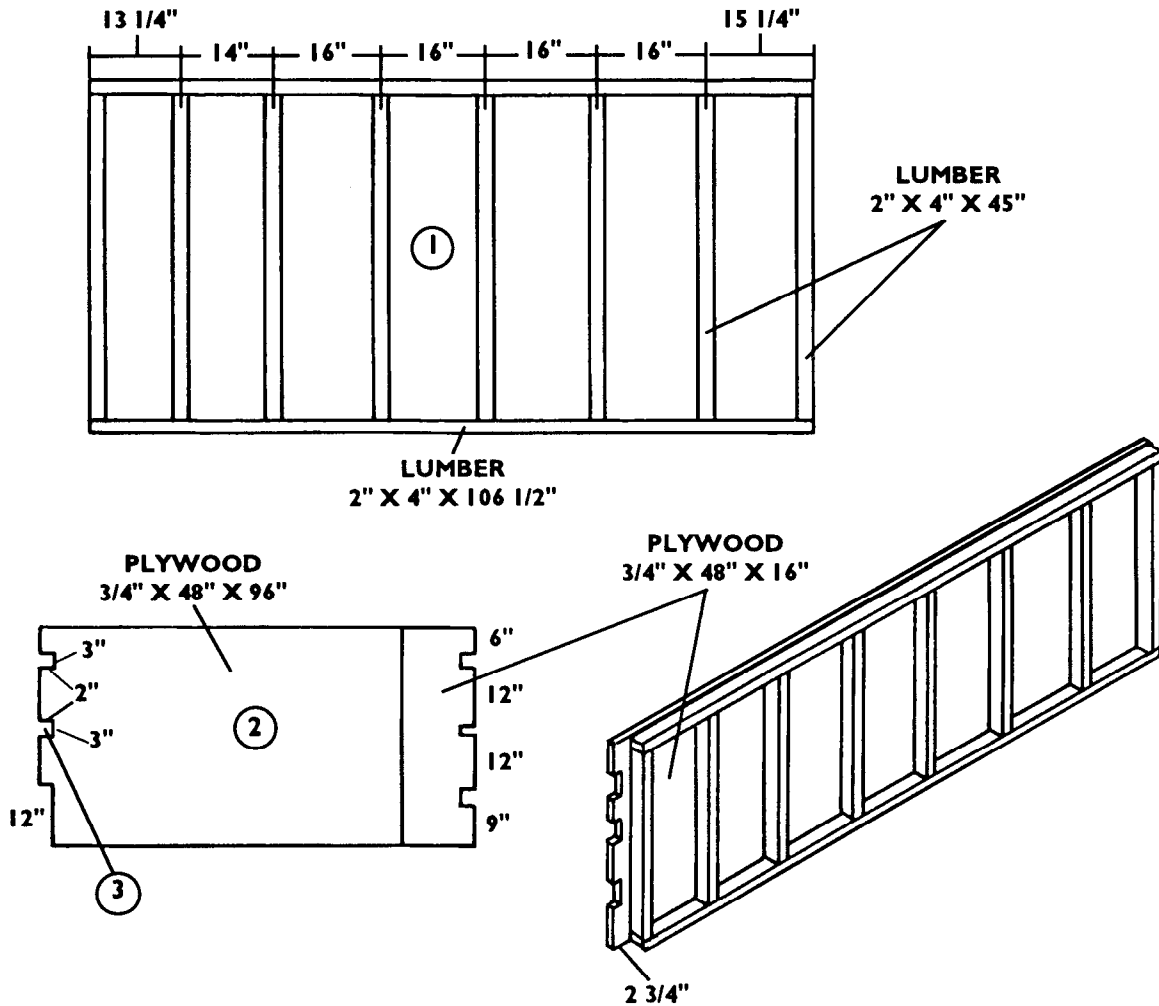


- ① Cut four 3/4- by 48- by 92-inch pieces of plywood.
- ② Nail a 2- by 4- by 85-inch piece of lumber along the top and bottom edges of each of the four end pieces with 8d nails as shown. Allow the plywood to extend past the lumber, 3 1/2 inches on each side.

Figure 17-3. Box ends constructed

Notes: 1. These drawings are not drawn to scale.

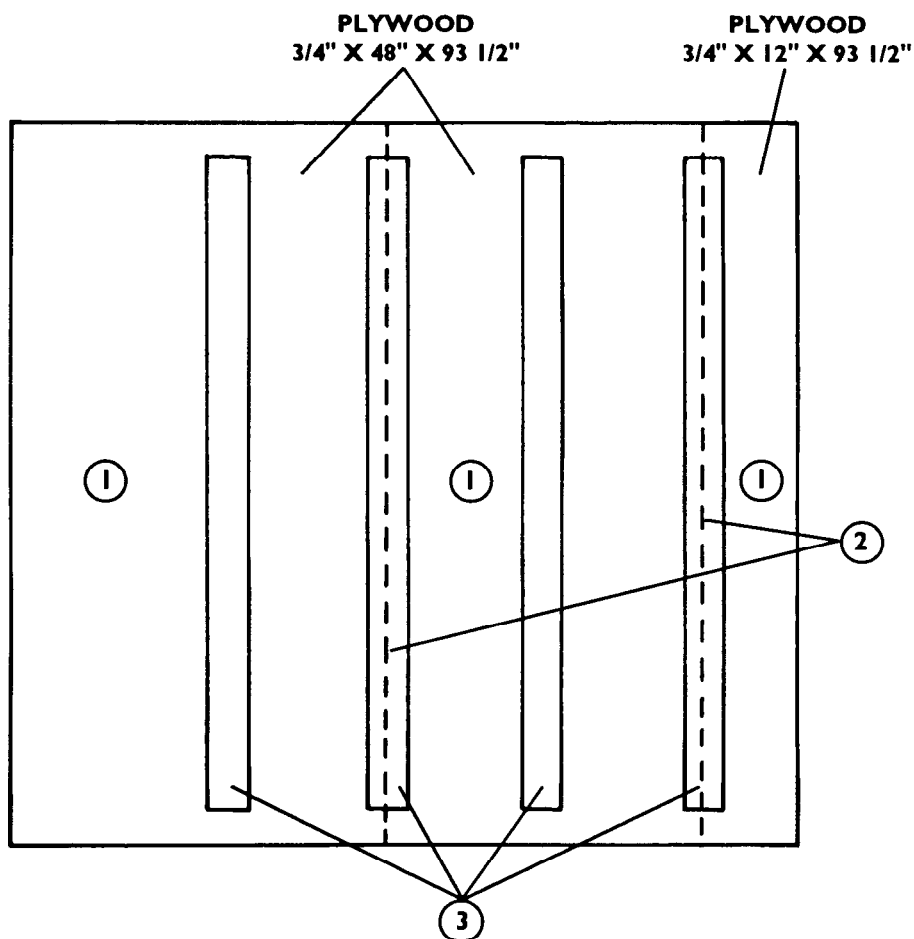
2. Use 8d nails.



- ① Build a frame of 2- by 4-inch lumber as shown for each of the four box sides required. Space the upright pieces exactly as shown. Spacing is measured on center, except from the ends.
- ② Lay a full 3/4- by 48- by 96-inch sheet of plywood and a 3/4- by 16- by 48-inch piece of plywood, unfinished side down, over the frame made in step 1 so that the joint between the pieces is centered over the second upright from the left. Nail the plywood to the frame so that the edges are flush with the top and bottom of the frame, and the plywood extends past the frame 2 3/4 inches on each end.
- ③ Make 2- by 3-inch cutouts as shown in each of the four sides. Face the 12-inch cutout to the right on two of the sides, and to the left on the other two.

Figure 17-4. Box sides constructed

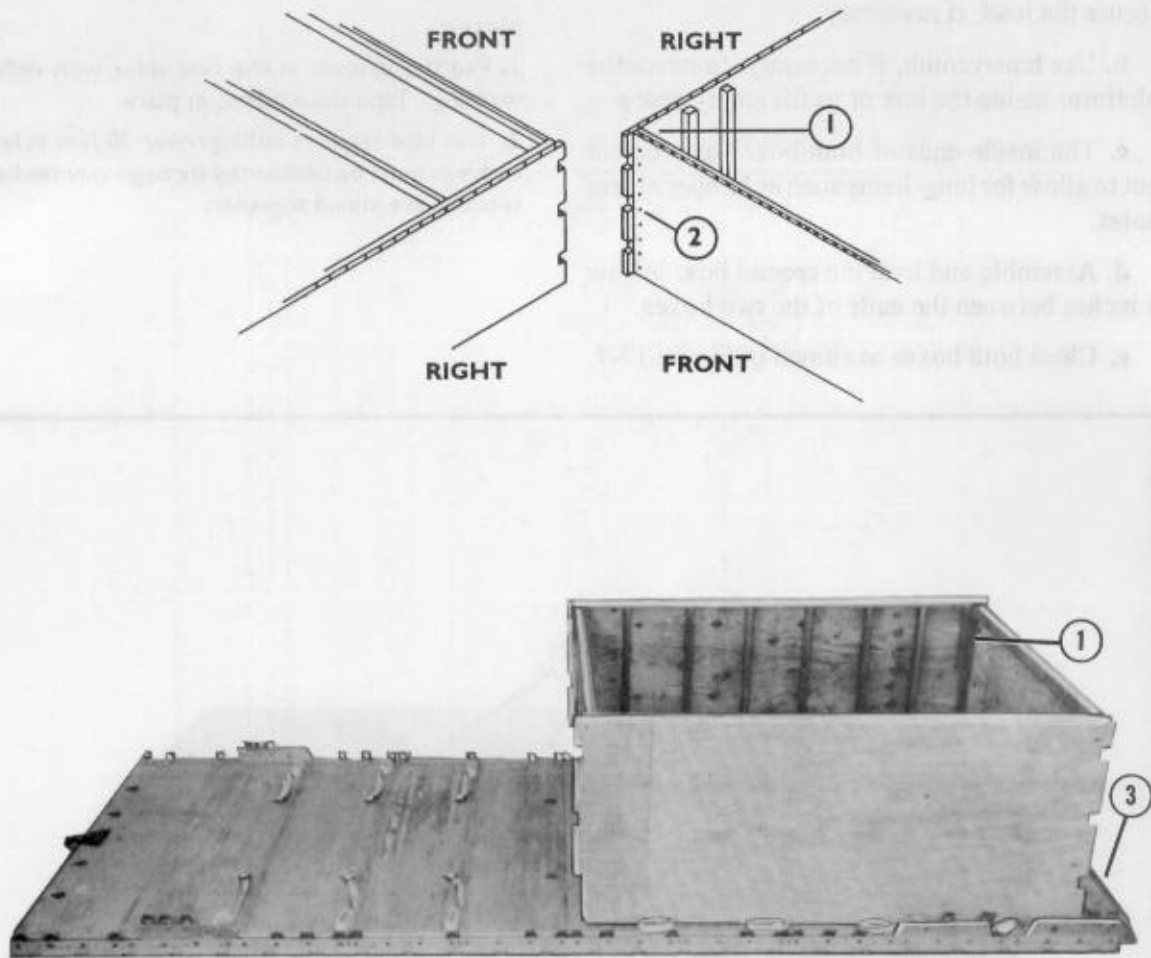
- Notes:** 1. This drawing is not drawn to scale.
2. Use 8d nails.



- ① Cut two 3/4- by 48- by 93 1/2-inch pieces of plywood. In addition, cut a 3/4- by 12- by 93 1/2-inch piece of plywood.
- ② Lay the pieces of plywood cut in step 1 together, finished side up, as shown.
- ③ Space four 2- by 4- by 85-inch pieces of lumber flat side down under the plywood as shown. Nail the plywood to the lumber.
- ④ Repeat steps 1 through 3 to make the top for the second box (not shown).

Figure 17-5. Tops of boxes constructed

Note: This drawing is not drawn to scale.



- ① Assemble the box on the platform. Fit each end of the first box between the sides with the left and right of each end flush against the inside vertical lumber uprights on the sides.
- ② Nail the pieces of the box together with 8d nails through the ends of the box into the vertical lumber pieces in the sides.
- ③ Be sure that the front end of the box is centered and 9 inches from the front edge of the platform.

Figure 17-6. Box partially assembled for loading

17-5. Loading and Closing the Boxes

Load and close the boxes as described below.

- a. Use the tie-down rings inside the box to secure the load, if necessary.
- b. Use honeycomb, if necessary, to cover the platform inside the box or to fill empty space.
- c. The inside ends of both boxes may be cut out to allow for long items such as lumber or tent poles.
- d. Assemble and load the second box. Allow 6 inches between the ends of the two boxes.
- e. Close both boxes as shown in Figure 17-7.

17-6. Installing Lashings

Install the lashings and secure pre-positioned lashings as shown in Figures 17-8 through 17-15.

Notes:

1. Pad the cutouts in the box sides with cellulose wadding. Tape the wadding in place.
2. This load requires lashings over 30 feet in length. Lashings must be positioned through clevises before sections are joined together.

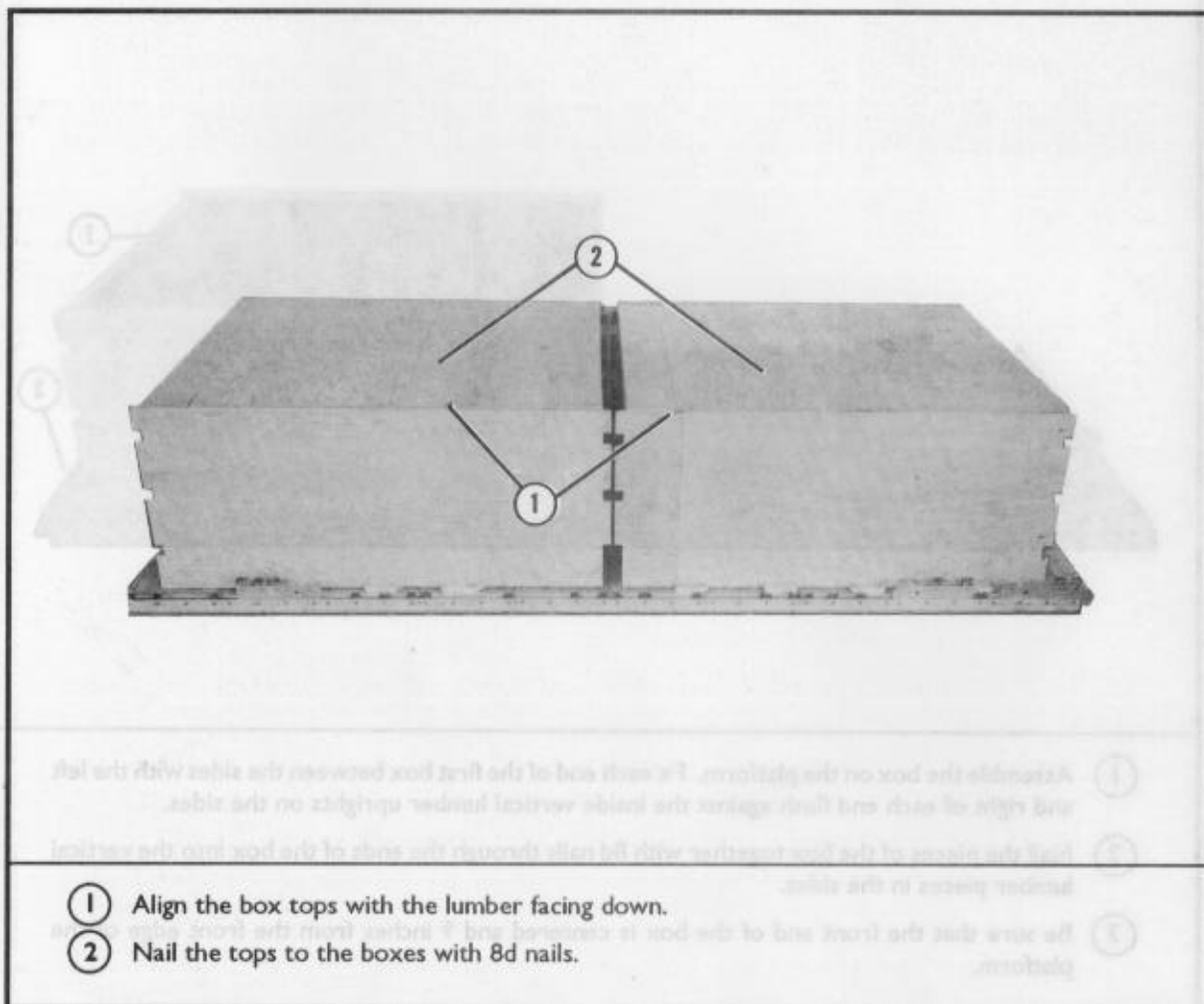
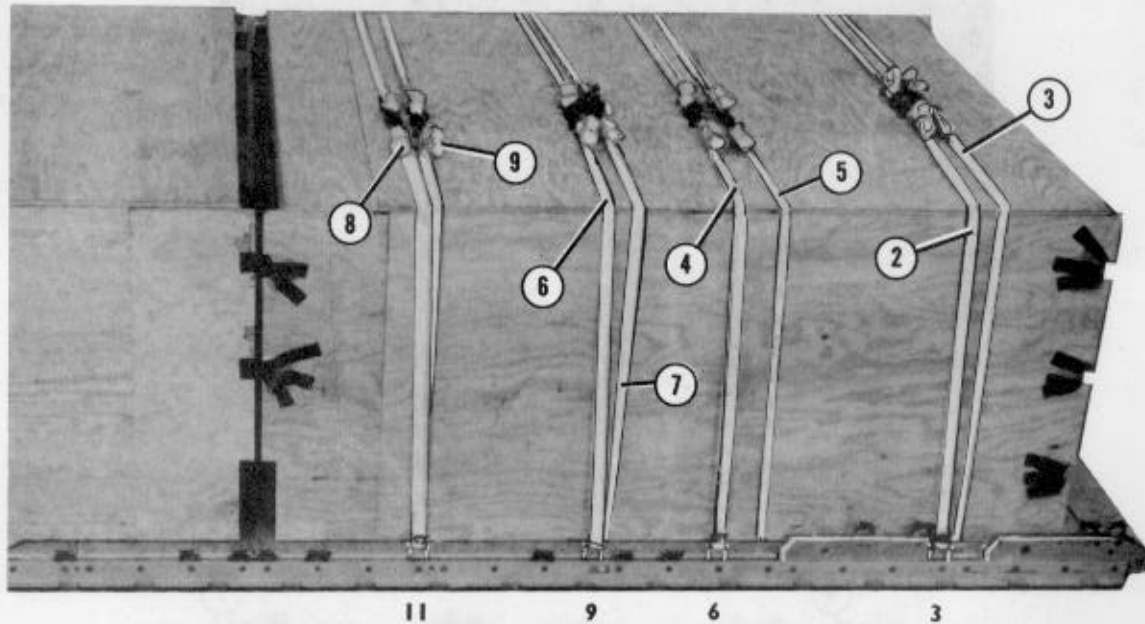


Figure 17-7. Boxes closed



- ① Pass a 15-foot lashing through clevis 3 and through its own D-ring. Do the same for clevises 3A, 6, 6A, 9, 9A, 11, and 11A.
- ② Secure the pre-positioned lashing in tie-down ring B2 to the lashing in clevis 3 on top of the box with two D-rings and a load binder.
- ③ Secure the pre-positioned lashing in tie-down ring A2 to the lashing in clevis 3A on top of the box with two D-rings and a load binder.
- ④ Secure the pre-positioned lashing in tie-down ring B3 to the lashing in clevis 6 on top of the box with two D-rings and a load binder.
- ⑤ Secure the pre-positioned lashing in tie-down ring A3 to the lashing in clevis 6A on top of the box with two D-rings and a load binder.
- ⑥ Secure the pre-positioned lashing in tie-down ring B4 to the lashing in clevis 9 on top of the box with two D-rings and a load binder.
- ⑦ Secure the pre-positioned lashing in tie-down ring A4 to the lashing in clevis 9A on top of the box with two D-rings and a load binder.
- ⑧ Secure the pre-positioned lashing in tie-down ring B5 to the lashing in clevis 11 on top of the box with two D-rings and a load binder.
- ⑨ Secure the pre-positioned lashing in tie-down ring A5 to the lashing in clevis 11A on top of the box with two D-rings and a load binder.

Figure 17-8. Pre-positioned lashings secured to lashings on platform rails

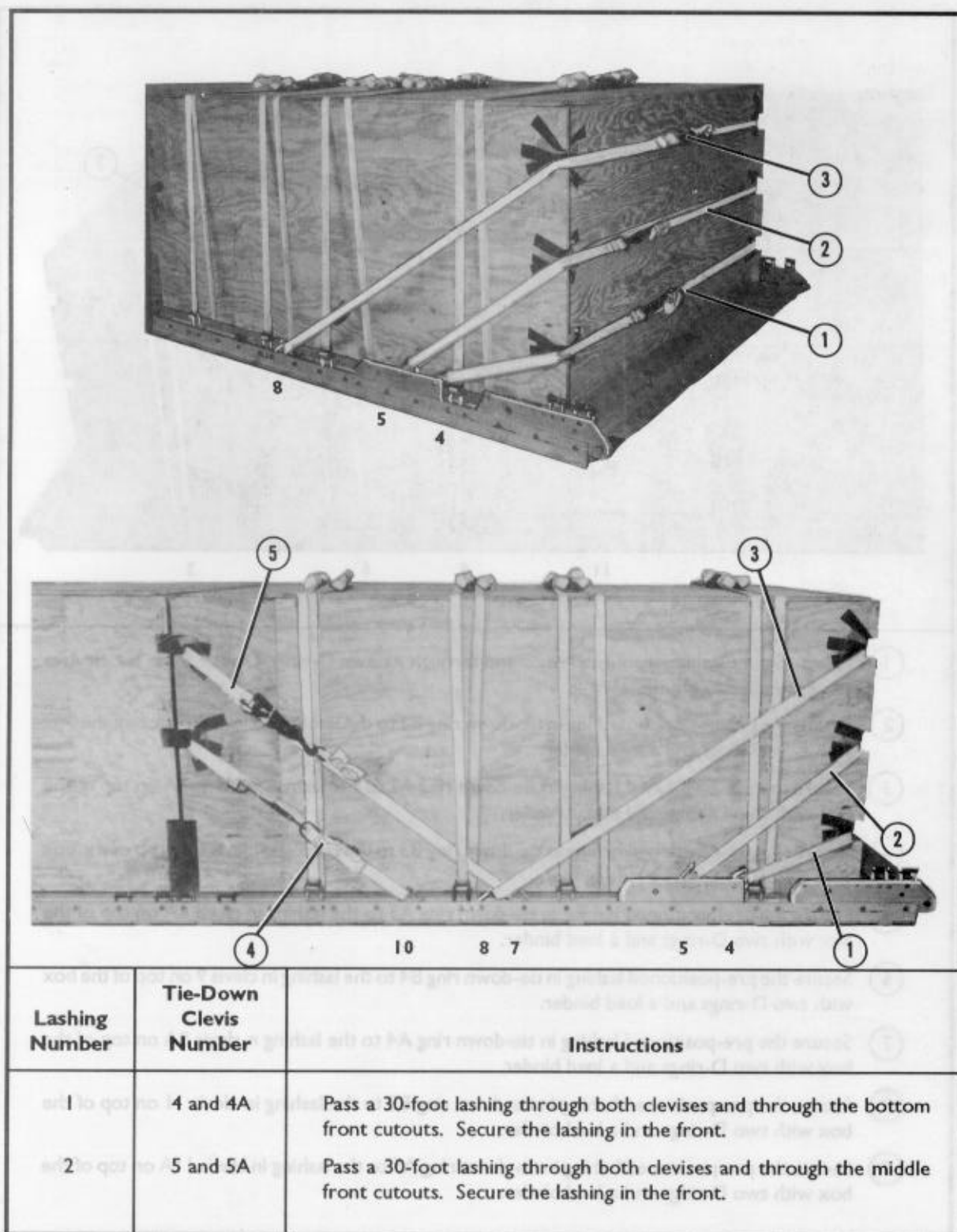
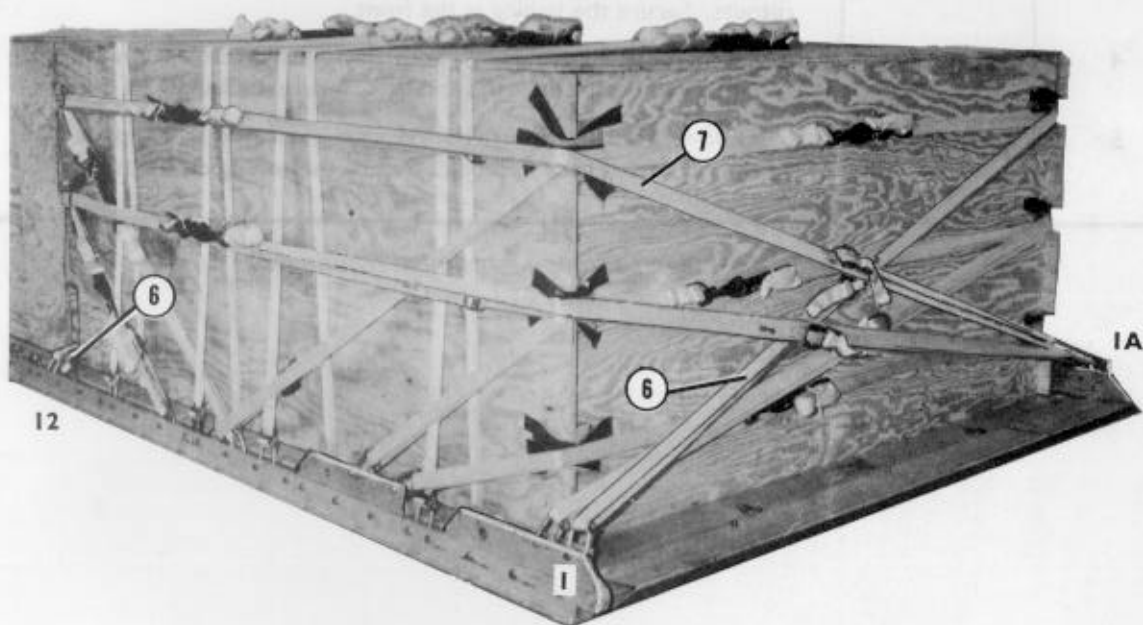


Figure 17-9. Lashings 1 through 5 installed

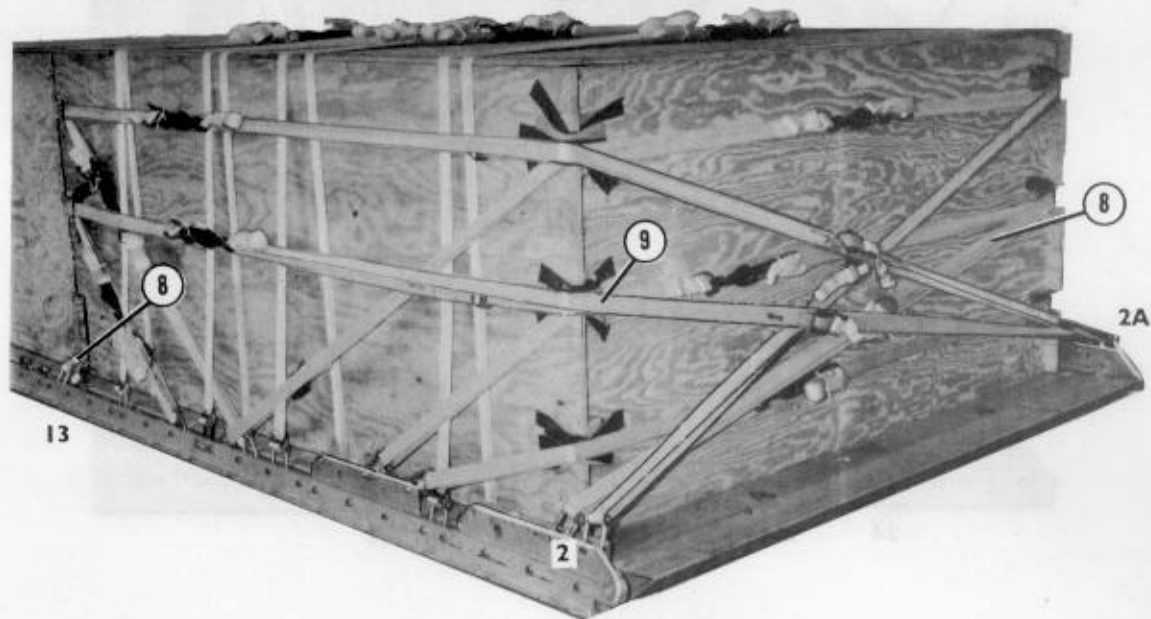
Lashing Number	Tie-Down Clevis Number	Instructions
3	8 and 8A	Pass a 45-foot lashing through both clevises and through the top front cutouts. Secure the lashing in the front.
4	10 and 10A	Pass a 45-foot lashing through both clevises and through the middle cutouts on the rear side of the first box. Secure the lashing on the side.
5	7 and 7A	Pass a 45-foot lashing through both clevises and through the top cutouts on the rear side of the first box. Secure the lashing on the side.

Figure 17-9. Lashings 1 through 5 installed (continued)



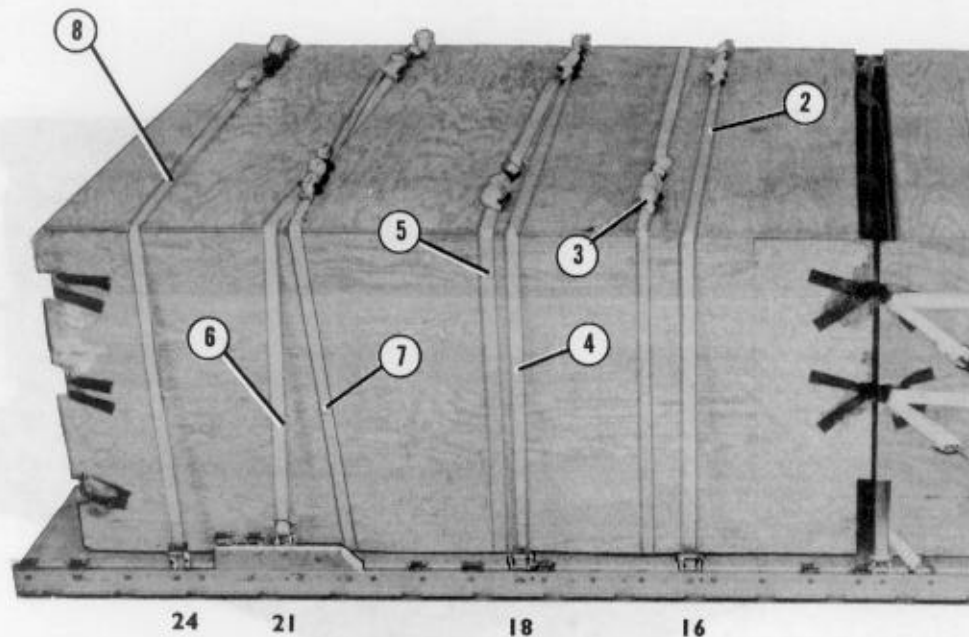
Lashing Number	Tie-Down Clevis Number	Instructions
6	1 and 12	Pass a 60-foot lashing through clevis 1, through the top cutout in the left side of the first box, and around the left side of the box. Pass the lashing through the top left cutout on the rear end of the first box and through clevis 12. Secure the lashing on the left side.
7	1A and 12A	Pass a 60-foot lashing through clevis 1A, through the top cutout in the right side of the first box, and around the right side of the box. Pass the lashing through the top right cutout on the rear end of the first box, and through clevis 12A. Secure the lashing on the right side.

Figure 17-10. Lashings 6 and 7 installed



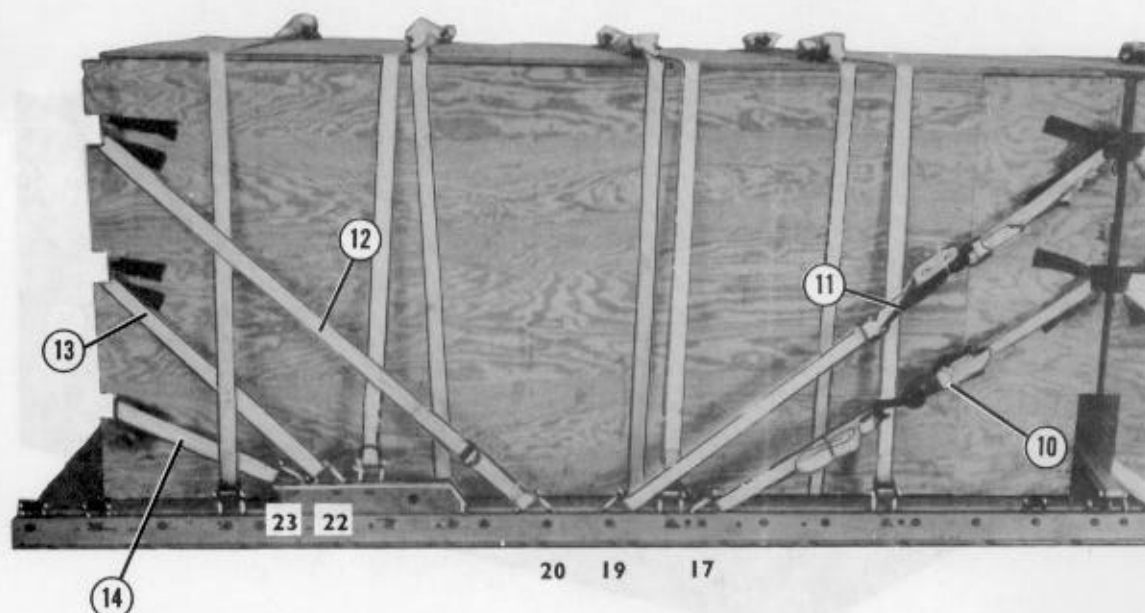
Lashing Number	Tie-Down Clevis Number	Instructions
8	2 and 13	Pass a 60-foot lashing through clevis 2, through the middle left cutout in the left side of the first box, and around the left side of the box. Pass the lashing through the middle left cutout on the rear end of the first box and through clevis 13. Secure the lashing on the left side.
9	2A and 13A	Pass a 60-foot lashing through clevis 2A, through the middle right cutout in the right side of the first box, and around the right side of the box. Pass the lashing through the middle right cutout on the rear end of the first box and through clevis 13A. Secure the lashing on the right side.

Figure 17-11 Lashings 8 and 9 installed



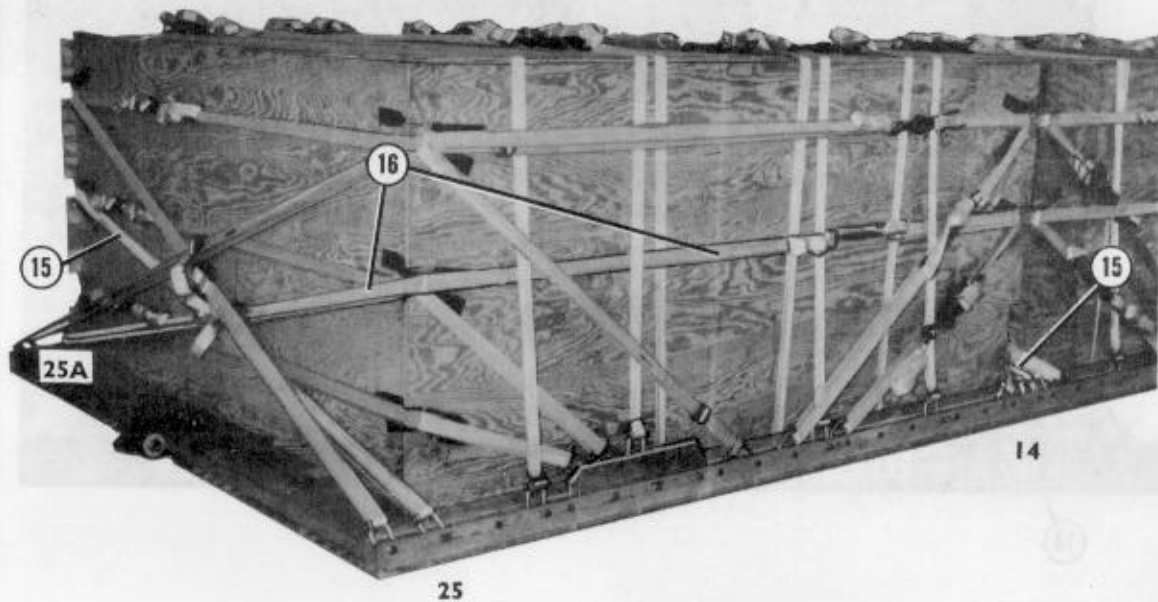
- ① Pass a 15-foot lashing through clevis 16 and through its own D-ring. Do the same for clevis 16A, 18, 18A, 21, 21A, 24, and 24A.
- ② Secure the pre-positioned lashing in tie-down ring B7 to the lashing in clevis 16 on top of the box with two D-rings and a load binder.
- ③ Secure the pre-positioned lashing in tie-down ring A7 to the lashing in clevis 16A on top of the box with two D-rings and a load binder.
- ④ Secure the pre-positioned lashing in tie-down ring B8 to the lashing in clevis 18 on top of the box with two D-rings and a load binder.
- ⑤ Secure the pre-positioned lashing in tie-down ring A8 to the lashing in clevis 18A on top of the box with two D-rings and a load binder.
- ⑥ Secure the pre-positioned lashing in tie-down ring B9 to the lashing in clevis 21 on top of the box with two D-rings and a load binder.
- ⑦ Secure the pre-positioned lashing in tie-down ring A9 to the lashing in clevis 21A on top of the box with two D-rings and a load binder.
- ⑧ Secure the lashings in clevises 24 and 24A together on top of the box with two D-rings and a load binder.

Figure 17-12. Pre-positioned lashings secured to lashings on platform rails



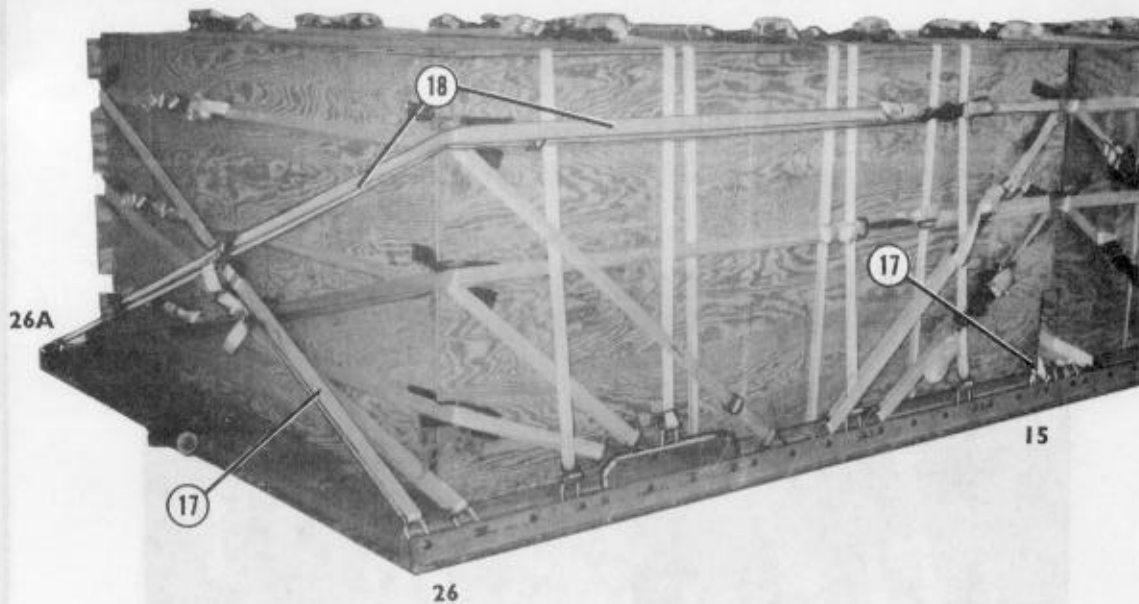
Lashing Number	Tie-Down Clevis Number	Instructions
10	17 and 17A	Pass a 30-foot lashing through both clevises and through the middle cutouts in the front end of the second box. Secure the lashing on the side.
11	19 and 19A	Pass a 45-foot lashing through both clevises and through the top cutouts in the front end of the second box. Secure the lashing on the side.
12	20 and 20A	Pass a 45-foot lashing through both clevises and through the top rear cutouts. Secure the lashing in the rear.
13	22 and 22A	Pass a 30-foot lashing through both clevises and through the middle rear cutouts. Secure the lashing in the rear.
14	23 and 23A	Pass a 30-foot lashing through both clevises and through the bottom rear cutouts. Secure the lashing in the rear.

Figure 17-13. Lashings 10 through 14 installed



Lashing Number	Tie-Down Clevis Number	Instructions
15	14 and 25	Pass a 60-foot lashing through clevis 14, through the middle cutout in the left side of the second box and around the left side of the box. Pass the lashing through the left middle cutout at the rear and through clevis 25. Secure the lashing in the rear.
16	14A and 25A	Pass a 60-foot lashing through clevis 14A, through the middle cutout in the right side of the second box, and around the right side of the box. Pass the lashing through the right middle cutout at the rear and through clevis 25A. Secure the lashing on the right side.

Figure 17-14. Lashings 15 and 16 installed

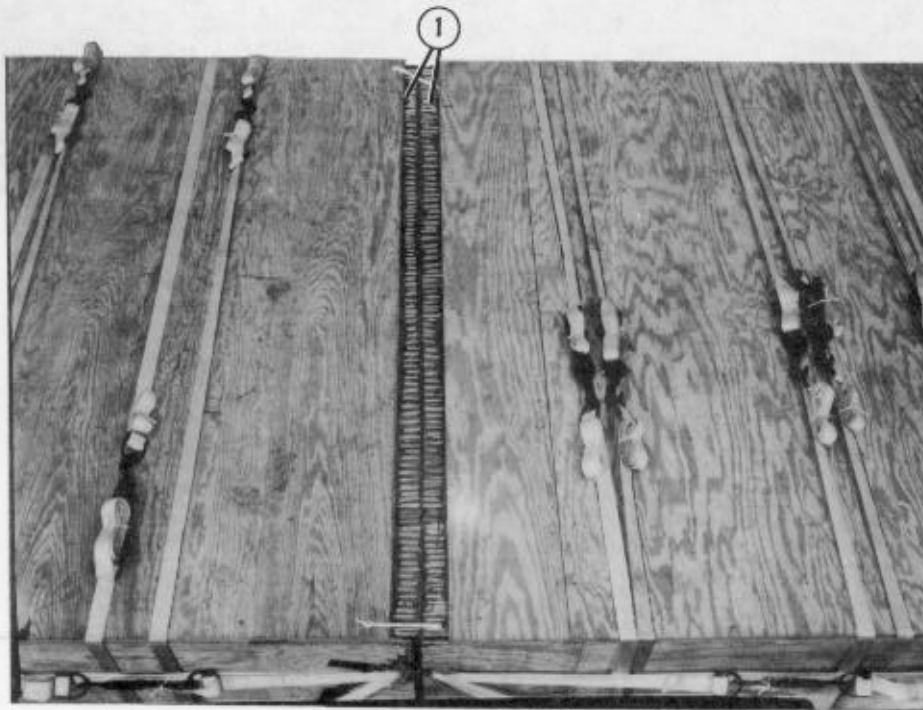


Lashing Number	Tie-Down Clevis Number	Instructions
17	15 and 26	Pass a 60-foot lashing through clevis 15, through the top cutout in the left side of the second box, and around the left side of the box. Pass the lashing through the top left rear cutout and through clevis 26. Secure the lashing in the rear.
18	15A and 26A	Pass a 60-foot lashing through clevis 15A, through the top cutout in the right side of the second box, and around the right side of the box. Pass the lashing through the top right rear cutout and through clevis 26A. Secure the lashing on the right side.

Figure 17-15. Lashings 17 and 18 installed

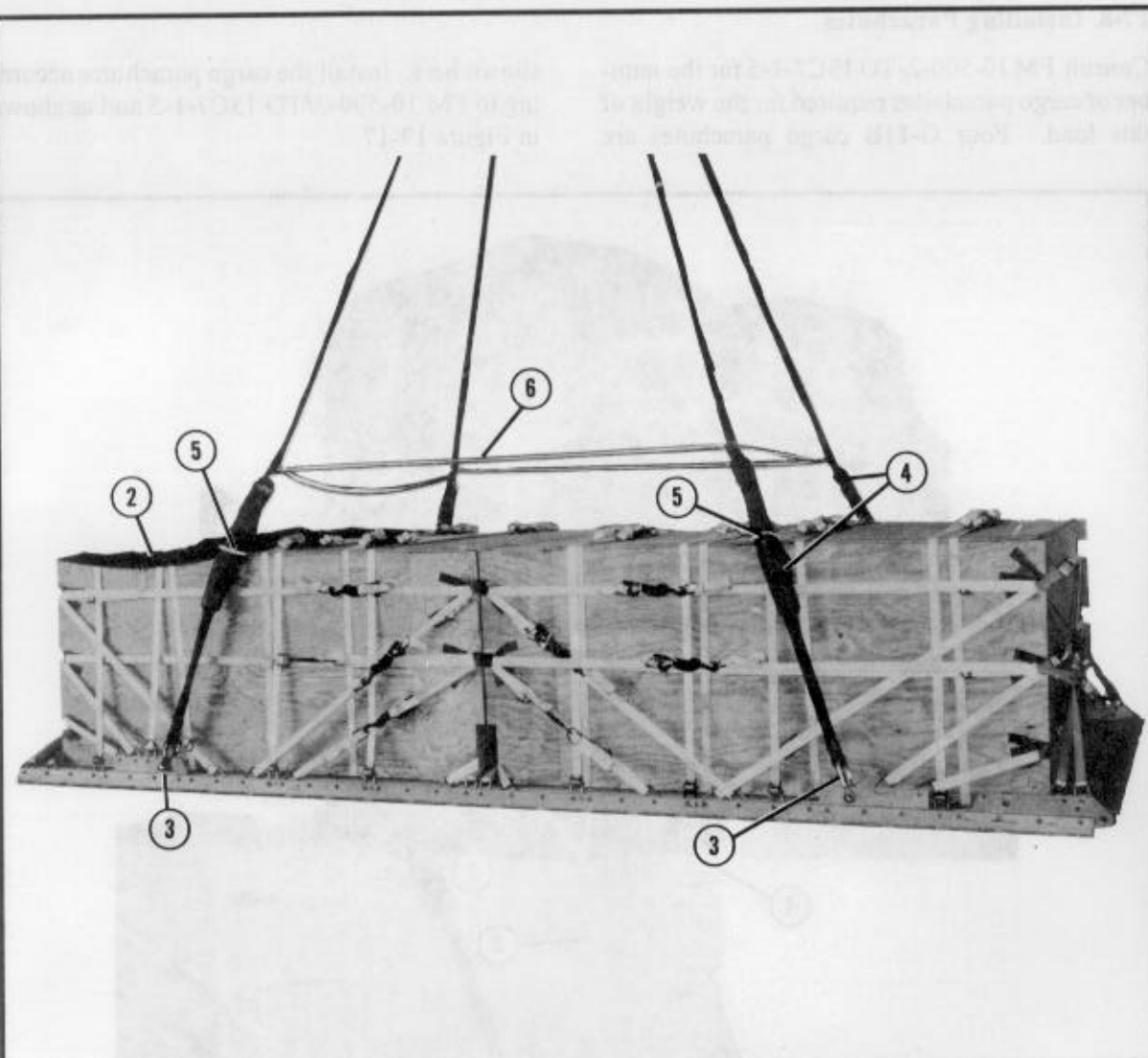
17-7. Installing Load Cover, Suspension Slings, and Deadman's Tie

Install the load cover, honeycomb buffers, suspension slings, and deadman's tie as shown in Figure 17-16.



- ① Slide two 6- by 92-inch pieces of honeycomb between the two boxes at the top. The honeycomb may be held in place by lengths of type III nylon cord tied around the honeycomb and through holes drilled in convenient locations on the boxes.

Figure 17-16. Load cover, suspension slings, and deadman's tie installed



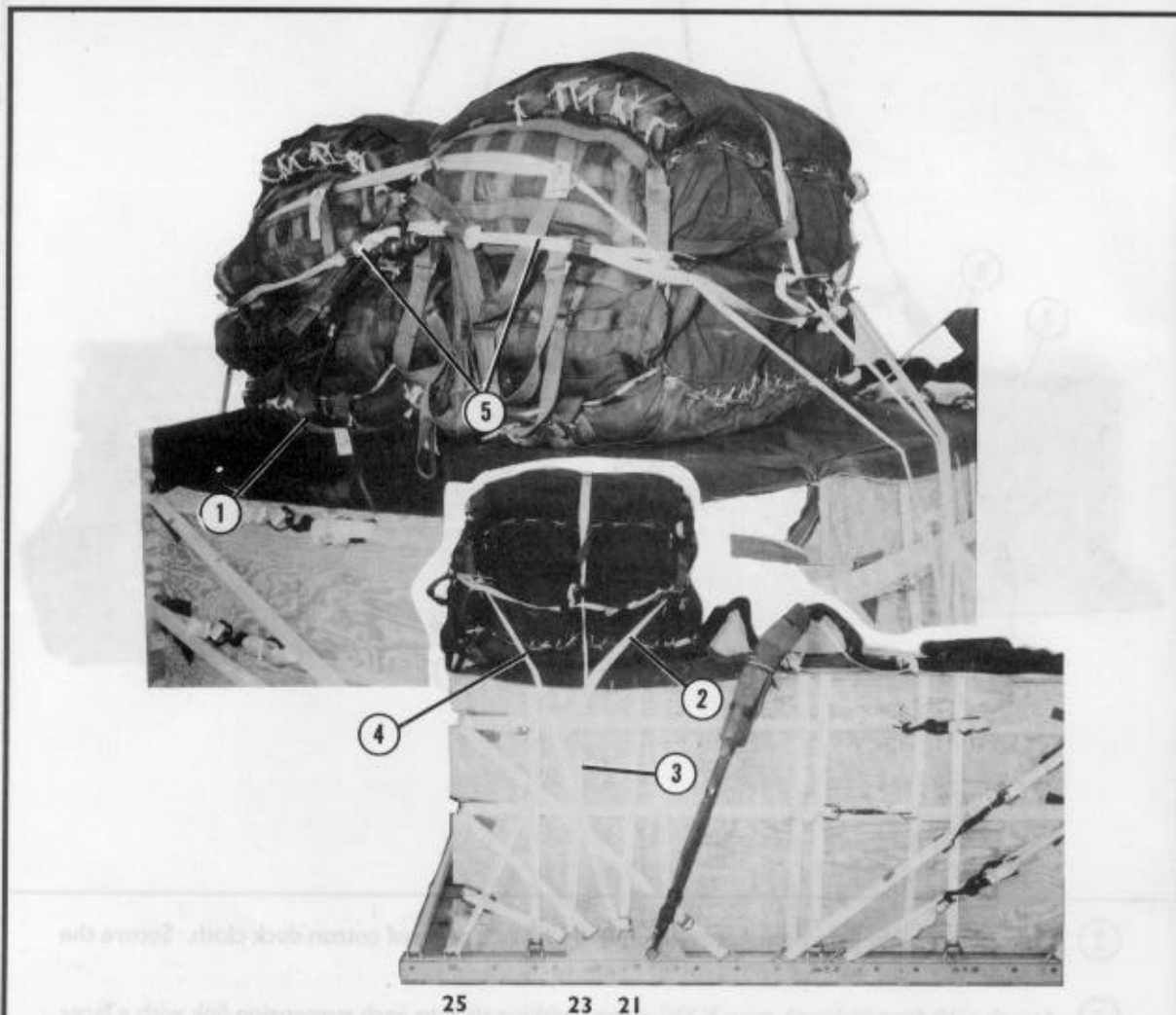
- ② Cover the rear fourth of the load with a 60- by 96-inch piece of cotton duck cloth. Secure the cloth to adjacent lashings with type III nylon cord.
- ③ Attach a 20-foot (4-loop), type XXVI nylon webbing sling to each suspension link with a large suspension clevis.
- ④ Pull the suspension slings tight above the load. Pad each suspension sling 36 inches above the clevis with a 9- by 24-inch piece of felt. Tape the felt in place 2 inches past each end of the felt and in the center.
- ⑤ Tie the front suspension slings together over the top of the load with a length of type III nylon cord. Tie the rear suspension slings together in the same way.
- ⑥ Install the deadman's tie according to FM 10-500-2/TO 13C7-1-5.

Figure 17-16. Load cover, suspension slings, and deadman's tie installed (continued)

17-8. Installing Parachutes

Consult FM 10-500-2/TO 13C7-1-5 for the number of cargo parachutes required for the weight of this load. Four G-11B cargo parachutes are

shown here. Install the cargo parachutes according to FM 10-500-2/TO 13C7-1-5 and as shown in Figure 17-17.

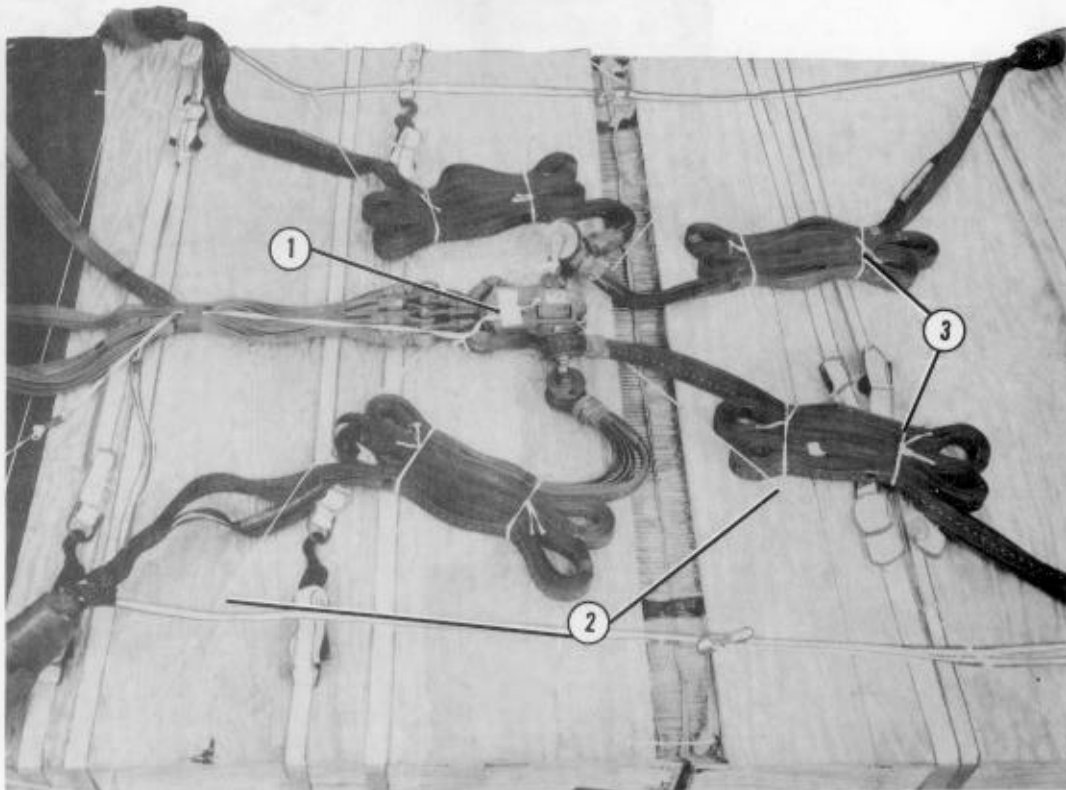


- ① Install the cargo parachutes at the rear of the load.
- ② Tie the front parachute restraint strap to clevises 25 and 25A.
- ③ Tie the center parachute restraint strap to clevises 23 and 23A.
- ④ Tie the rear parachute restraint strap to clevises 21 and 21A.
- ⑤ Install two multicut parachute release straps.

Figure 17-17. Four G-11B cargo parachutes installed

17-9. Installing Release System

Install and safety an M-2 cargo parachute release assembly as shown in Figure 17-18.

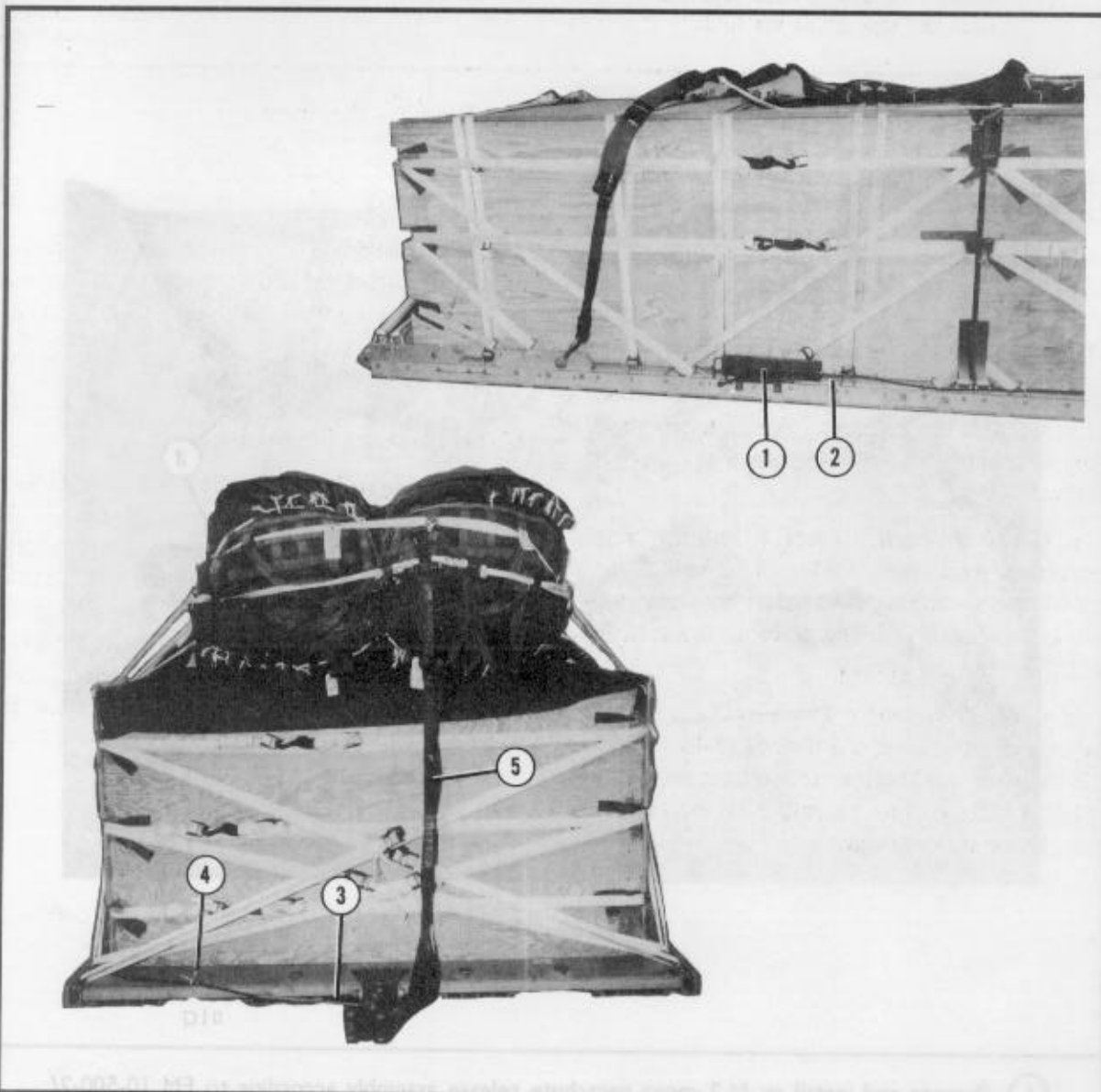


- ① Prepare and install an M-2 cargo parachute release assembly according to FM 10-500-2/TO 13C7-I-5. Place the release assembly in front of the parachutes as shown.
- ② Safety the release to convenient points on the load with type III nylon cord.
- ③ S-fold and tie the slack in the suspension slings with type I, 1/4-inch cotton webbing.

Figure 17-18. Release assembly installed

17-10. Installing Extraction System

Install the EFTC extraction system according to FM 10-500-2/TO 13C7-1-5 and as shown in Figure 17-19.



- ① Install the EFTA actuator brackets to the rear mounting holes on the left platform side rail.
- ② Attach a 20-foot release cable to the actuator. Install the actuator to the brackets and run the cable to the rear.

Figure 17-19. Extraction system installed

- ③ Install the latch assembly to the extraction bracket. Attach the release cable to the latch assembly.
- ④ Tie the cable to tie-down ring D10 with type I, 1/4-inch cotton webbing.
- ⑤ Install a 12-foot (2-loop), type XXVI nylon webbing sling as the deployment line. S-fold the slack and tape or tie the folds.

Figure 17-19. Extraction system installed (continued)

17-11. Installing Provisions for Emergency Restraints

Install provisions for emergency restraints according to FM 10-500-2/TO 13C7-1-5.

17-12. Placing Extraction Parachutes

Consult FM 10-500-2/TO 13C7-1-5 for extraction parachute requirements. Position the extraction parachutes for the load shown as described below.

a. C-130 Aircraft. Place a 28-foot cargo extraction parachute; a 60-foot (3-loop), type XXVI nylon webbing extraction line; and a two-point, 5 1/2-inch link assembly on the load for installation in the aircraft.

b. C-141B Aircraft. Place a 28-foot cargo extraction parachute; a 140-foot (3-loop), type XXVI nylon webbing extraction line; and a two-point, 5 1/2-inch link assembly on the load for installation in the aircraft.

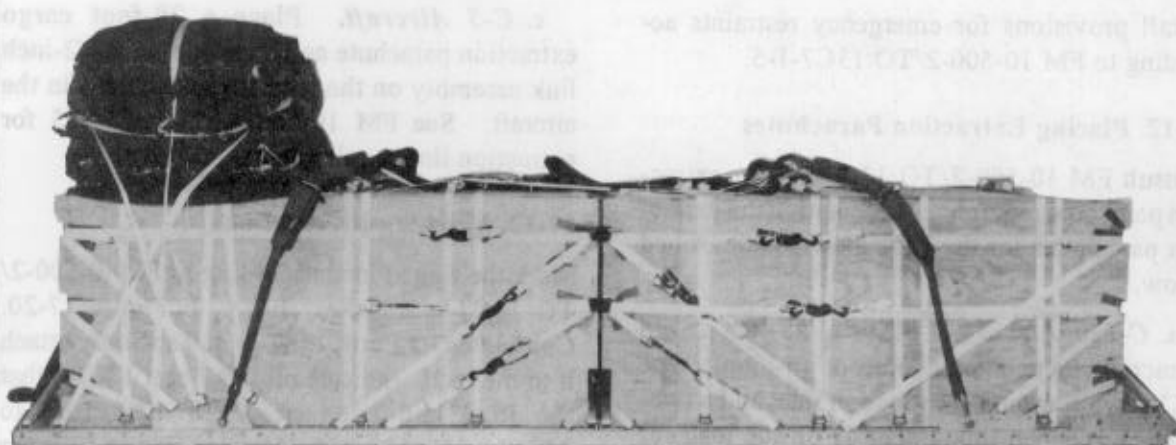
c. C-5 Aircraft. Place a 28-foot cargo extraction parachute and a two-point, 5 1/2-inch link assembly on the load for installation in the aircraft. See FM 10-500-2/TO 13C7-1-5 for extraction line requirements.

17-13. Marking Rigged Load

Mark the rigged load according to FM 10-500-2/TO 13C7-1-5 and as shown in Figure 17-20. Complete DD Form 1387-2, and securely attach it to the load. Indicate on DD Form 1387-2 that the load had been prepared according to AFR 71-4/TM 38-250. If the load varies from the one shown, recompute the weight, height, CB, and parachute requirements according to FM 10-500-2/TO 13C7-1-5.

CAUTION

Make the final rigger inspection required by FM 10-500-2/TO 13C7-1-5 before the load leaves the rigging site.



CB

RIGGED LOAD DATA

Weight:	Minimum load allowed.....	6,300 pounds
	Maximum load allowed.....	21,500 pounds
Height	.....	88 inches
Width	.....	108 inches
Length	.....	240 inches
Overhang: Front	.....	0 inches
	Rear	0 inches
CB (from front edge of platform)	.....	126 inches
Extraction System (adds 18 inches to length of platform)	.....	EFTC

Figure 17-20. Mass supply boxes rigged on a 20-foot, type V platform for low-velocity airdrop

17-14. Equipment Required

Use the equipment listed in Table 17-1 to rig the load shown.

Note:

Table does not include materials which may be needed to pad and restrain supplies inside the boxes.

Table 17-1. Equipment required for rigging mass supply boxes on a 20-foot type V platform for low-velocity airdrop

National Stock Number	Item	Quantity
8040-00-273-8713	Adhesive, paste, 1-gal	As required
4030-00-090-5354	Clevis, suspension, 1-in (large)	5
8305-00-242-3593	Cloth, cotton duck, 60-in	As required
4020-00-240-2146	Cord, nylon, type III, 550-lb	As required
1670-00-434-5787	Coupling, airdrop, extraction force transfer w 20-ft cable	1
1670-00-360-0329	Cover, link assembly, type IV	12
8135-00-664-6958	Cushioning material, packaging, cellulose wadding	As required
5365-00-937-0147	D-ring, heavy-duty, 10,000-lb	As required
8305-00-958-3685	Felt sheet, 1/2-in	As required
1670-01-183-2678	Leaf, extraction line	2
	* Line, extraction, type XXVI nylon webbing:	
1670-01-062-6313	60-ft (3-loop) or	1
1670-01-107-7651	140-ft (3-loop)	1
	Link assembly:	
	Two-point, 5 1/2-in:	1
5306-00-435-8994	Bolt, 1-in diam, 4 in long	(2)
5310-00-232-5165	Nut, 1-in	(2)
1670-00-003-1954	Plate, side, 5 1/2-in	(2)
5365-00-007-3414	Spacer, large	(2)
1670-00-783-5988	Type IV	12
5510-00-220-6146	Lumber, 2- by 4- by:	
	45-in	32
	85-in	16
	106 1/2-in	8
5315-00-010-4659	Nail, steel wire, common, 8d	As required
1670-00-753-3928	Pad, energy-dissipating, honeycomb, 3- by 36- by 96-in:	1 sheet
	6- by 92-in	2
1670-01-016-7841	Parachute, cargo, G-11B	4

* Both extraction lines may be needed for C-5 aircraft.

Table 17-1. Equipment required for rigging mass supply boxes on a 20-foot type V platform for low-velocity airdrop (continued)

National Stock Number	Item	Quantity
1670-01-063-3715	Parachute, cargo extraction: 15-ft	1
1670-00-040-8135	28-ft	1
	Platform, AD, type V, 20-ft:	1
	Bracket:	
1670-01-162-2375	Inside EFTA	(1)
1670-01-162-2374	Outside EFTA	(1)
1670-01-162-2385	Bumper, nose	(1)
1670-01-162-2372	Clevis assembly (type V)	(52)
1670-01-247-2389	Suspension link	(4)
1670-01-162-2381	Tandem link (multipurpose)	(2)
5530-00-128-4981	Plywood, 3/4-in:	12 sheets
	16- by 48-in	(4)
	92- by 48-in	(4)
	93 1/2- by 12-in	(2)
	93 1/2- by 48-in	(4)
	96- by 48-in	(4)
1670-01-097-8817	Release, cargo parachute, M-2	1
	Sling, cargo airdrop, type XXVI nylon webbing:	
	For deployment line:	
1670-01-062-6303	12-ft (2-loop)	1
	For suspension:	
1670-01-064-4453	20-ft (4-loop)	4
	For riser extension:	
1670-01-062-6302	20-ft (2-loop)	12
1670-00-040-8219	Strap, parachute release, multicut (comes w 3 knives)	2
7510-00-266-5016	Tape, adhesive, PSA, cloth back, 2-in	As required
1670-00-937-0271	Tie-down assembly, 15-ft	93
	Webbing:	
8305-00-268-2411	Cotton, 1/4-in, type I	As required
	Nylon:	
8305-00-082-5752	Tubular, 1/2-in, natural	As required
8305-00-263-3591	Type VIII	As required

GLOSSARY

ACB	attitude control bar	FM	field manual
AD	airdrop	ft	feet/foot
AFB	Air Force base	gal	gallon
AFR	Air Force regulation	HQ	Headquarters
AFTO	Air Force technical order	in	inch
ALC	Airlift Logistics Center	LAPES	low-altitude parachute extraction system
AMC	Air Mobility Command	lb	pound
ATTN	attention	LV	low-velocity
C	change	MAC	Military Airlift Command
cap	capacity	mm	millimeter
CB	center of balance	no	number
chap	chapter	PEFTC	extraction force transfer coupling (platform)
d	penny	sec	second
DA	Department of the Army	SL/CS	static line/connector strap
DC	District of Columbia	TM	technical manual
DD	Department of Defense	TO	technical order
diam	diameter	TOW	tube-launched, optically tracked, wire-guided
DS	direct support	US	United States
EFTA	extraction force transfer actuator	w	with
EFTC	extraction force transfer coupling		
FAST	Forward Area Surgical Team		
fig	figure		

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